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f is 0;

n is 0 and w is 2, or n is 1 and w is 1, or n is 2 and w is 0;

Y² is oxygen or sulfur;

 $R^1 \ \ \text{is hydrogen, -CN, -(CH_2)_qN(X^6)C(O)X^6, -(CH_2)_qN(X^6)C(O)(CH_2)_{r^-}A^1,}$

 $-(CH_2)_qN(X^6)SO_2(CH_2)_t-A^1, \ -(CH_2)_qN(X^6)SO_2X^6, \ -(CH_2)_qN(X^6)C(O)N(X^6)(CH_2)_t-A^1, \ -(CH_2)_qN(X^6)SO_2(CH_2)_t-A^1, \ -(CH_2)_qN(X^6)_t$

 $\text{-(CH$_2$)$_q$N(X6)C(O)N(X6)(X6), -(CH$_2$)_q$C(O)N(X6)(X6), -(CH$_2$)_q$C(O)N(X6)(CH$_2$)_r-A$^1, \\$

 $-(CH_2)_qC(O)OX^6, -(CH_2)_qC(O)O(CH_2)_{t^*}A^1, -(CH_2)_qOX^6, -(CH_2)_qOC(O)X^6,$

 $\text{-(CH$_2$)$_qOC(O)(CH$_2$)_r-A^1, -(CH$_2$)_qOC(O)N(X6)(CH$_2$)_r-A^1, -(CH$_2$)_qOC(O)N(X6),}$

 $\hbox{-(CH$_2)$_q$C(O)$X6, -(CH$_2)$_q$C(O)(CH$_2)$_t$-$A1, -(CH$_2)$_q$N(X6)C(O)OX6,}$

 $-(CH_2)_qN(X^6)SO_2N(X^6)(X^6), -(CH_2)_qS(O)_mX^6, -(CH_2)_qS(O)_m(CH_2)_t-A^1,$

 $\hbox{-(CH$_2$)$_q$-$Y1-(CH$_2$)$_t$-A^1 or -(CH$_2$)$_q$-$Y1-(CH$_2$)$_t$-(C$_3$-C$_7$) cycloalkyl;}$

where the alkyl and cycloalkyl groups in the definition of R1 are optionally substituted with (C_1-C_4) alkyl, hydroxyl, (C_1-C_4) alkoxy, carboxyl, -CONH₂,

 $-S(O)_m(C_1-C_6) alkyl, -CO_2(C_1-C_4) alkyl \ ester, \ 1 \ H-tetrazol-5-yl \ or \ 1, \ 2 \ or \ 3 \ fluoro;$

 Y^1 is O, $S(O)_m$, $-C(O)NX^6$ -, -CH=CH-, -C=C-, $-N(X^6)C(O)$ -, -C(O)O-,

 $-OC(O)N(X^6)$ - or -OC(O)-;

q is 0, 1, 2, 3 or 4;

t is 0, 1, 2 or 3;

said (CH₂)_q group and (CH₂)_t group may each be optionally substituted with hydroxyl, (C_1-C_4) alkoxy, carboxyl, -CONH₂, -S(O)_m(C_1-C_6)alkyl,

-CO₂(C₁-C₄)alkyl ester, 1H-tetrazol-5-yl, 1, 2 or 3 fluoro, or 1 or 2 (C₁-C₄)alkyl;

 $R^2 \text{ is hydrogen, } (C_1\text{-}C_8) \text{alkyl, -} (C_0\text{-}C_3) \text{alkyl-} (C_3\text{-}C_8) \text{cycloalkyl, -} (C_1\text{-}C_4) \text{alkyl-} A^1 \text{ or } A^1;$ where the alkyl groups and the cycloalkyl groups in the definition of R2 are

optionally substituted with hydroxyl, -C(O)OX6, -C(O)N(X6)(X6),

 $-N(X^6)(X^6), \ -S(O)_m(C_1-C_6)alkyl, \ -C(O)A^1, \ -C(O)(X^6), \ CF_3, \ CN \ or \ 1, \ 2 \ or \ 3$ halogen;

 R^3 is A^1 , (C_1-C_{10}) alkyl, $-(C_1-C_6)$ alkyl- A^1 , $-(C_1-C_6)$ alkyl- (C_3-C_7) cycloalkyl,

 $\hbox{-}(C_1\hbox{-} C_5) alkyl\hbox{-} X^1\hbox{-}(C_1\hbox{-} C_5) alkyl, \hbox{-}(C_1\hbox{-} C_5) alkyl\hbox{-} X^1\hbox{-}(C_0\hbox{-} C_5) alkyl\hbox{-} A^1 \ or \\$

 $\hbox{-($C_1$-$C_5$)} alkyl\hbox{-$X^1$-($C_1$-$C_5$)} alkyl\hbox{-($C_3$-$C_7$)} cycloalkyl;$

where the alkyl groups in the definition of R3 are optionally substituted with,

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 $-S(O)_m(C_1-C_6)alkyl, -C(O)OX^3, 1, 2, 3, 4 \text{ or } 5 \text{ halogens, or } 1, 2 \text{ or } 3 \text{ OX}^3; \\ X^1 \text{ is } O, S(O)_m, -N(X^2)C(O)-, -C(O)N(X^2)-, -OC(O)-, -C(O)O-, -CX^2=CX^2-, -N(X^2)C(O)O-, -OC(O)N(X^2)- \text{ or } -C\equiv C-; \\$

R⁴ is hydrogen, (C₁-C₆)alkyl or (C₃-C₇)cycloalkyl;

 X^4 is hydrogen or (C_1-C_6) alkyl or X^4 is taken together with R^4 and the nitrogen atom to which X^4 is attached and the carbon atom to which R^4 is attached and form a five to seven membered ring;

$$X^{5}$$
 X^{5a} Z^{1} $(CH_{2})_{a}$ C $(CH_{2})_{b}$

where a and b are independently 0, 1, 2 or 3;

 X^5 and X^{5a} are each independently selected from the group consisting of hydrogen, trifluoromethyl, A^1 and optionally substituted (C_1 - C_6)alkyl;

the optionally substituted (C_1-C_6) alkyl in the definition of X^5 and X^{5a} is optionally substituted with a substituent selected from the group consisting of A^1 , OX^2 , $-S(O)_m(C_1-C_6)$ alkyl, $-C(O)OX^2$,

 (C_3-C_7) cycloalkyl, $-N(X^2)(X^2)$ and $-C(O)N(X^2)(X^2)$;

 R^7 and R^8 are independently hydrogen or optionally substituted ($C_1\text{-}C_6$)alkyl;

where the optionally substituted (C_1-C_6) alkyl in the definition of \mathbb{R}^7 and \mathbb{R}^8 is optionally independently substituted with A^1 , $-C(O)O-(C_1-C_6)$ alkyl,

 $-S(O)_m(C_1-C_6)$ alkyl, 1 to 5 halogens, 1 to 3 hydroxy, 1 to 3 $-O-C(O)(C_1-C_{10})$ alkyl or 1 to 3 (C_1-C_6) alkoxy; or

 R^7 and R^8 can be taken together to form -(CH₂)_r-L-(CH₂)_r-;

where L is $C(X^2)(X^2)$, $S(O)_m$ or $N(X^2)$;

A¹ in the definition of R¹ is a partially saturated, fully saturated or fully unsaturated 4- to 8-membered ring optionally having 1 to 4 heteroatoms independently selected from the group consisting of oxygen, sulfur and nitrogen, a bicyclic ring system consisting of a partially saturated, fully unsaturated or fully saturated 5- or 6-membered ring, having 1 to 4 heteroatoms independently selected from the group consisting of nitrogen, sulfur and oxygen, fused to a partially saturated, fully saturated or fully unsaturated 5- or 6-membered ring, optionally having 1 to 4 heteroatoms independently selected from the group consisting of nitrogen, sulfur and oxygen;



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A¹ in the definition of R², R³, R⁶, R⁷ and R⁸ is independently (C₅-C₇)cycloalkenyl, phenyl or a partially saturated, fully saturated or fully unsaturated 4- to 8- membered ring optionally having 1 to 4 heteroatoms independently selected from the group consisting of oxygen, sulfur and nitrogen, a bicyclic ring system consisting of a partially saturated, fully unsaturated or fully saturated 5- or 6- membered ring, optionally having 1 to 4 heteroatoms independently selected from the group consisting of nitrogen, sulfur and oxygen, fused to a partially saturated, fully saturated or fully unsaturated 5- or 6- membered ring, optionally having 1 to 4 heteroatoms independently selected from the group consisting of nitrogen, sulfur and oxygen;

A¹ for each occurrence is independently optionally substituted, in one or optionally both rings if A¹ is a bicyclic ring system, with up to three substituents, each substituent independently selected from the group consisting of F, Cl, Br, I, OCF₃, OCF₂H, CF₃, CH₃, OCH₃, -OX⁶,

- $-C(O)N(X^6)(X^6)$, $-C(O)OX^6$, oxo, (C_1-C_6) alkyl, nitro, cyano, benzyl,
- $-S(O)_m(C_1-C_6)\\alkyl, 1\\H-tetrazol-5-yl, phenyl, phenoxy, phenylalkyloxy, halophenyl, methylenedioxy, -N(X^6)(X^6), -N(X^6)C(O)(X^6), -SO_2N(X^6)(X^6),$
- $-N(X^6)SO_2$ -phenyl, $-N(X^6)SO_2X^6$, $-CONX^{11}X^{12}$, $-SO_2NX^{11}X^{12}$, $-NX^6SO_2X^{12}$,
- -NX 6 CONX 11 X 12 , -NX 6 SO $_2$ NX 11 X 12 , -NX 6 C(O)X 12 , imidazolyl, thiazolyl or tetrazolyl, provided that if A 1 is optionally substituted with methylenedioxy then it can only be substituted with one methylenedioxy;

where X11 is hydrogen or optionally substituted (C1-C6)alkyl;

the optionally substituted (C_1 - C_6)alkyl defined for X^{11} is optionally independently substituted with phenyl, phenoxy, (C_1 - C_6)alkoxycarbonyl, $-S(O)_m(C_1$ - C_6)alkyl 1 to 5 halogens, 1 to 3 hydroxy, 1 to 3 (C_1 - C_{10})alkanoyloxy or 1 to 3 (C_1 - C_6)alkoxy;

X¹² is hydrogen, (C₁-C₆)alkyl, phenyl, thiazolyl, imidazolyl, furyl or thienyl, provided that when X¹² is not hydrogen, X¹² is optionally substituted with one to three substituents independently selected from the group consisting of Cl, F, CH₃, OCH₃, OCF₃ and CF₃;

or X^{11} and X^{12} are taken together to form -(CH₂)_r-L¹-(CH₂)_r; where L¹ is C(X²)(X²), O, S(O)_m or N(X²);

r for each occurrence is independently 1, 2 or 3;

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